

AMENDMENTS TO THE CLAIMS

The text of all pending claims, including withdrawn claims, is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please ADD new claims 80-109 and AMEND claims 1-15, 17, 20, 22, 24, 26, 29-31, 33, 35-37, 39, 41, 45, 47-49, 51, 56, 58, 59, 61, 64, 66, 70, 72, 73-75, 78 and 79 in accordance with the following:

1. (Currently Amended) A display apparatus capable of being connected to ~~with~~ an external storage medium disposed external to the display apparatus, the display apparatus comprising:

a receiving processor that receives a digital video signal and/or an audio signal;

a controller that, if a user ~~commands~~requires storage of the received digital video signal and/or audio signal, stores ~~in real time~~ the received digital video signal and/or audio signal ~~received through the receiving processor in the external storage medium, and, if the user requires reproduction of the video signal and/or audio signal stored on the external storage medium, reproduces the stored video signal and/or audio signal stored on the external storage medium; and~~

a port disposed on the display apparatus, through which the received digital video signal and/or audio signal are transmitted from the display apparatus to the external storage medium~~an output unit that outputs the reproduced video signal and/or audio signal.~~

2. (Currently Amended) The display apparatus of claim 1, wherein the controller, according to a request from the user and when the received digital video signal and/or audio signal are stored ~~on~~in the external storage medium, determines whether the received digital video signal and/or audio signal is to be output through the ~~output unit~~port.

3. (Currently Amended) The display apparatus of claim 1, wherein the receiving processor receives a ~~broadcasting signal including the~~ digital video signal and/or the audio signal in the form of a digital television broadcast signal, ~~or the video signal and/or an audio signal provided from an external audio/video (AV) device.~~

4.(Currently Amended) The display apparatus of claim 3, wherein, when the received digital video signal and/or audio signal is output in real time ~~using~~ through the ~~output unit~~port, the controller controls the storage ~~or reproduction with respect to~~in the external storage medium.

5.(Currently Amended) The display apparatus of claim 4, wherein, when the digital video signal and/or audio signal are reproduced from the external storage medium, the controller displays the reproduced video signal and the received digital video signal output in real time together ~~on~~ through the ~~output unit~~port in a Picture-In-Picture format or in a Picture-By-Picture format.

6.(Currently Amended) The display apparatus of claim 1, wherein if an input of the user requires control of the external storage medium, the controller outputs management information through the ~~output unit~~port, and uses the management information to manage the storage or reproduction of the received digital video signal and/or audio signal with respect to the external storage medium.

7.(Currently Amended) The display apparatus of claim ~~6~~3, wherein the output unit comprises:

a display unit to display the received digital video signal ~~and the video signal reproduced from the external storage medium~~; and

a speaker to output the received audio signal ~~and/or the audio signal reproduced from the external storage medium~~.

8. (Currently Amended) The display apparatus of claim 7, wherein the management information for stored video signal and/or the audio signal stored ~~on~~ in the external storage medium is displayed in an on-screen display format on the display unit.

9. (Currently Amended) The display apparatus of claim 7, wherein the management information for stored video signal and/or the audio signal stored ~~on~~in the external storage medium is output as an audio signal through the speaker.

10. (Currently Amended) The display apparatus of claim 8, wherein the management information comprises time information corresponding to a storage capacity of the external storage medium, and a list including the stored digital video signal and/or audio signal and additional video signals and/or audio signals stored ~~on~~in the external storage medium.

11. (Currently Amended) The display apparatus of claim 8, wherein the reproduced video signal and/or the audio signal are a selected video signal and/or an audio signal selected from a plurality of reproducible video signals and/or audio signals stored ~~on~~in the external storage medium and which is selected by a user with reference to the management information.

12. (Currently Amended) The display apparatus of claim 1, wherein, when an input of the user requires control of the external storage medium, the controller outputs through the output unit information that the user can input as a storage request or a reproduction request.

13. (Currently Amended) A display apparatus capable of being connected towith an external storage medium, the apparatus comprising:

a receiving processor to receive a digital video signal and/or an audio signal;

a controller that forms a virtual file system for the external storage medium,

if a user requires storage of the received digital video signal and/or audio signal, stores the digital video signal and/or audio signal received through the receiving processor in the external storage medium in real time with reference to information generated on the basis of the formed virtual file system, and

if the user requires reproduction of the digital video signal and/or audio signal stored ~~on~~in the external storage medium, reproduces the stored video signal and/or an audio signal from the external storage medium with reference to the information generated on the basis of the virtual file system; and

an output unit, to output the reproduced video signal and/or audio signal.

14. (Currently Amended) The display apparatus of claim 13, wherein the controller downloads a file system stored ~~on~~in the external storage medium and uses the downloaded file system to form the virtual file system.

15. (Currently Amended) The display apparatus of claim 13, wherein the controller controls the storage or the reproduction to output the digital video signal and/or audio signal received through the receiving processor to the output unit in real time.

16. (Original) The display apparatus of claim 13, wherein the information generated on the basis of the virtual file system comprises management information for the external storage medium.

17. (Currently Amended) The display apparatus of claim 16, wherein the management information comprises time information corresponding to a storage capacity of the external storage medium, and a list including the stored video signal and/or the audio signal and additional video and/or audio signals stored ~~on~~in the external storage medium.

18. (Original) The display apparatus of claim 17, wherein the controller generates the management information so that the management information is output in an on-screen display format through the output unit.

19. (Original) The display apparatus of claim 13, wherein, when the video signal and/or the audio signal are reproduced from the external storage medium, the controller displays the video signal reproduced from the external storage medium and the received video signal together using the output unit in a Picture-In-Picture format or in a Picture-By-Picture format.

20. (Currently Amended) A display apparatus connected with an external storage medium, the apparatus comprising:

- a receiving processor that receives a video signal and/or an audio signal;
- a compression and decompression unit that
 - if a user requires storing of the received digital video signal and/or audio signal, is set to a compression mode, and compresses the video signal and/or the audio signal received from the receiving processor, and
 - if the user requires reproduction of the digital video signal and/or audio signal stored ~~on~~in the external storage medium, is set to a decompression mode, and restores the video signal and/or the audio signal received from an external storage medium;
- an output unit to output the reproduced digital video signal and/or audio signal;

and

- a controller that
 - if the user requires the storage, controls the compression and decompression unit in the compression mode and -stores the compressed digital video signal and/or audio signal compressed by the compression and decompression unit in the external storage medium in real time, and
 - if the user requires the reproduction, outputs the digital video signal and/or audio signal from the external storage medium to the output unit through the compression and decompression unit.

21. (Original) The display apparatus of claim 20, wherein the controller forms a virtual file system for the external storage medium, and controls the storage or reproduction of the video and/or audio signals with respect to the external storage medium using the virtual file system.

22. (Currently Amended) The display apparatus of claim 21, wherein the controller downloads a file system stored ~~on~~in the external storage medium and forms the virtual file system using the downloaded file system.

23. (Original) The display apparatus of claim 21, wherein the controller forms the virtual file system if an input of the user requires control of the external storage medium.

24. (Currently Amended) The display apparatus of claim 20, wherein the controller generates management information for managing the stored video signal and/or the audio signal ~~on~~in the external storage medium using the virtual file system, and outputs the management information to the output unit.

25. (Original) The display apparatus of claim 24, wherein the controller generates the management information so that the management information is displayed in an on-screen display format on the output unit.

26. (Currently Amended) The display apparatus of claim 24, wherein the management information comprises time information corresponding to a storage capacity of the external storage medium, and a list including the stored digital video signal and/or audio signal and additional video and/or audio signals stored ~~on~~in the external storage medium.

27. (Original) The display apparatus of claim 20, wherein, when the received video signal and audio signal are output through the output unit in real time, the controller controls the storage or reproduction of the received video signal and/or the audio signal with respect to the external storage medium.

28. (Original) The display apparatus of claim 27, wherein, when the video signal and/or the audio signal are reproduced from the external storage medium, the controller displays the video signal restored from the compression and decompression unit and the received video signal together on the output unit in a Picture-In-Picture format or in a Picture-By-Picture format.

29. (Currently Amended) The display apparatus of claim 20, wherein, according to a request of the user and when the received digital video signal and/or audio signal are stored ~~on~~in the external storage medium, the controller determines whether the received video signal and/or audio signal is to be output using the output unit.

30. (Currently Amended) A method of operating a display apparatus configured to be capable of being directly connected to an external storage medium disposed external to the display apparatus, the method comprising:

receiving a digital video signal and/or an audio signal in the display apparatus;
transmitting the received digital video signal and/or audio signal to the external storage medium disposed external to the display apparatus; and

~~storing the digital received video signal and/or audio signal on in the external storage medium in real time, if a user requires storage of the received video signal and/or audio signal; and~~

~~reading and reproducing the stored video signal and/or audio signal from the external storage medium, if the user requires reproduction of the video signal and/or audio signal stored on the external storage medium.~~

31. (Currently Amended) The method of claim 30, further comprising:
forming a virtual file system for the external storage medium;
generating management information for the external storage medium using the virtual file system; and
providing the generated management information to the user before the user requires the storage or the reproduction of the received digital video signal and/or audio signal.

32. (Original) The method of claim 31, wherein the forming the virtual file system is performed if an input of the user requires control of the external storage medium by the display apparatus.

33. (Currently Amended) The method of claim 32, wherein the virtual file system is formed by downloading a file system stored ~~on~~ in the external storage medium to the display apparatus, and forming the virtual file system using the downloaded file system.

34. (Original) The method of claim 31, further comprising outputting the management information in an on-screen display format.

35.(Currently Amended) The method of claim 34, wherein the reading and reproducing comprises receiving a user selection indicating that the user requires reproduction of one digital video signal and/or audio signal selected from among a plurality of reproducible video signals and/or audio signals stored ~~on~~in the external storage medium with reference to the management information output in the on-screen display format.

36. (Currently Amended) The method of claim 31, wherein the management information comprises time information corresponding to a storage capacity of the external storage medium, and a list including the received digital video signal and/or audio signal and additional digital -video signal and/or audio signals stored ~~on~~in the external storage medium.

37. (Currently Amended) The method of claim 30, wherein further comprising outputting the received digital video signal and/or audio signal in real time through the display apparatus during the storing and/or reading and reproducing the received video and/or audio signals with respect to the external storage medium.

38. (Original) The method of claim 37, wherein the reproduction is performed so that the received video signal being output in real time and the video signal reproduced from the external storage medium are displayed together in a Picture-In-Picture format or in a Picture-By-Picture format.

39. (Currently Amended) The method of claim 30, wherein, according to a request from the user and when the received digital video signal and/or the audio signal are stored, it is determined whether the received digital video signal and/or audio signal ~~is~~are to be output through the display unit,.

40. (Original) The method of claim 31, wherein the providing the generated management information comprising providing information required by the user for use by the user in controlling the external storage medium.

41. (Currently Amended) A method of operating a display apparatus connected with an external storage medium disposed external to the display apparatus, the method comprising:

- receiving a digital video signal and/or audio signal at the display apparatus;
- compressing the received video signal and/or the audio signal, if a user requires storage of the received digital video signal and/or the audio signal;
- storing the compressed video signal and/or audio signal in the external storage medium in real time; and
- restoring the stored and/or compressed video and/or audio signal stored ~~on~~in the external storage medium, when the user requires reproduction of the digital video signal and/or audio signal using the display apparatus; and
- outputting the restored video signal and/or audio signal using the display apparatus.

42. (Original) The method of claim 41, further comprising:

- forming a virtual file system for the external storage medium; and
- outputting management information for the external storage medium generated on the basis of the virtual file system, before the compression or the restoration is performed.

43. (Original) The method of claim 42, wherein the storing or the restoring the compressed video and/or audio signal comprises the user requiring the storage or the reproduction of the compressed video and/or audio signal with reference to the output management information.

44. (Original) The method of claim 42, wherein the forming the virtual file system is performed if an input of the user requires control of the external storage medium.

45. (Currently Amended) The display apparatus of claim 1, further comprising a housing which houses the receiving processor, the controller, and the output unit and which has an interface, wherein the external storage medium is external to the housing, and the controller controls the interface to transmit the received digital video signal and/or audio signal through the interface to the external storage medium to be stored.

46. (Original) The display apparatus of claim 45, wherein the interface is a Universal Serial Bus (USB) interface.

47. (Currently Amended) The display apparatus of claim 45, further comprising an external storage device including the external storage medium and another controller which controls storage and retrieval of data including the received digital video signal and/or audio signal with respect to the external storage medium, wherein the controller sends instructions through the interface to instruct the another controller to store the received video signal and/or audio signal ~~on~~in the external storage medium.

48. (Currently Amended) The display apparatus of claim 45, further comprising an external storage device includes the external storage medium, wherein the controller controls the storage of the received video signal and/or audio signal ~~on~~in the external storage medium through the interface.

49. (Currently Amended) A reproducing apparatus connected with a storage medium disposed external to the reproducing display apparatus, the apparatus comprising:
a receiving processor that receives a signal;
an output unit that outputs the signal; and
a controller that transmits the received signal from the reproducing processor apparatus to the external storage medium, stores the signal received through the receiving processor ~~on~~in the external storage medium, and controls the output unit to reproduce the received signal.

50. (Original) The reproducing apparatus of claim 49, wherein the controller further retrieves the stored signal from the external storage medium and controls the output unit to output the retrieved signal.

51. (Currently Amended) The reproducing apparatus of claim 49, wherein the controller further stores the received signal ~~on~~in the external storage medium as the signal is received so as to record the signal in real time.

52. (Original) The reproducing apparatus of claim 51, wherein the controller further outputs the received signal through the output unit in real time as the received signal is being stored.

53. (Original) The reproducing apparatus of claim 51, wherein the controller further retrieves the stored signal from the external storage medium and controls the output unit to output the retrieved signal.

54. (Original) The reproducing apparatus of claim 53, wherein the controller further outputs the received signal through the output unit in real time such that the received signal is output with the retrieved signal.

55. (Original) The reproducing apparatus of claim 49, further comprising a housing which houses the receiving processor, the controller, and the output unit and which has an interface, wherein the external storage medium is external to the housing and the received signal is transferred through the interface to the external storage medium to be stored.

56. (Currently Amended) The reproducing apparatus of claim 55, wherein the controller further controls the interface in order to transmit the received signal to ~~and storage~~ on be stored in the external storage medium.

57. (Original) The reproducing apparatus of claim 55, wherein the interface is a Universal Serial Bus (USB) interface.

58. (Currently Amended) The reproducing apparatus of claim 55, wherein:
an external storage device includes another controller and the external storage medium, and

the controller sends instructions through the interface to instruct the another controller to store the received signal ~~on in~~ in the external storage medium.

59. (Currently Amended) The reproducing apparatus of claim 49, wherein:
~~an external storage device includes the external storage medium, and~~
the controller controls the storage of the received signal ~~on~~in the external storage medium.

60. (Original) The reproducing apparatus of claim 59, wherein the controller further creates a virtual file system so as to manage the received signal being recorded ~~on~~in the external storage medium.

61. (Currently Amended) The reproducing apparatus of claim 49, wherein the controller further generates a virtual file system so as to manage the received signal being recorded ~~on~~in the external storage medium.

62. (Original) The reproducing apparatus of claim 61, wherein the external storage medium stores additional signals, the generated virtual file system manages the stored signal and the additional signals, and the controller retrieves a selected one of the stored signal and the additional signals according to the virtual file system and controls the output unit to output the retrieved selected signal.

63. (Original) The reproducing apparatus of claim 60, wherein the controller further uses the generated virtual file system to retrieve the stored video and/or audio signal to be output through the output unit.

64. (Currently Amended) A controller for use in a reproducing apparatus which receives a signal and which is in communication with a ~~a~~an external storage medium disposed external to the reproducing apparatus, wherein the controller controls a transmission of the received signal to be stored ~~on~~in the external storage medium, controls a storage of the transmitted signal ~~on~~in the external storage medium, and controls an output unit of the reproducing apparatus to reproduce the received signal.

65. (Original) The controller of claim 64, wherein the controller further retrieves the stored signal from the external storage medium and controls the output unit to output the retrieved signal.

66. (Currently Amended) The controller of claim 64, wherein the controller further controls the received signal to be transmitted to and recorded ~~on~~in the external storage medium as the signal is received so as to record the signal ~~on~~in the external storage medium in real time.

67. (Original) The controller of claim 66, wherein the controller further controls the received signal to be output through the output unit in real time.

68. (Original) The controller of claim 66, wherein the controller further retrieves the stored signal from the external storage medium and controls the output unit to output the retrieved signal.

69. (Original) The controller of claim 68, wherein the controller further controls the received signal to be output through the output unit in real time such that the received signal is output with the retrieved signal.

70. (Currently Amended) The controller of claim 64, wherein the reproducing apparatus for use with the controller comprises a housing in which the controller is to be housed and has an interface, the external storage medium is external to the housing, and the controller controls the interface such that the received signal is transferred through the interface to the external storage medium to be stored.

71. (Original) The controller of claim 70, wherein the interface is a Universal Serial Bus (USB) interface.

72. (Currently Amended) The controller of claim 70, ~~wherein~~further comprising:
an external storage device includes another controller and the external storage medium, and
the controller sends instructions through the interface to instruct the another controller to store the received audio signal ~~on~~in the external storage medium.

73. (Currently Amended) The controller of claim 64, wherein:
~~an external storage device includes the external storage medium, and~~
the controller controls the storage of the received signal ~~on~~in the external storage medium.

74. (Currently Amended) The controller of claim 73, wherein the controller further creates a virtual file system so as to manage the received signal being recorded ~~on~~in the external storage medium.

75. (Currently Amended) The controller of claim 64, wherein the controller further generates a virtual file system so as to manage the received signal being recorded ~~on~~in the external storage medium.

76. (Original) The controller of claim 75, wherein the external storage medium stores additional signals, the generated virtual file system manages the stored signal and the additional signals, and the controller retrieves a selected one of the stored signal and the additional signals according to the virtual file system and outputs the retrieved selected signal through the output unit.

77. (Original) The controller of claim 75, wherein the controller further uses the generated virtual file system to retrieve the stored signal to be output through the output unit.

78. (Currently Amended) At least one medium comprising -computer readable code to control at least one processing element in a computer to medium-encoded with processing instructions for implementing the a-method of claim 30-performed by a processor.

79. (Currently Amended) At least one medium comprising -computer readable code to medium-encoded-withcontrol at least one -processing element in a computer to instructions for implementing the a-method of claim 41-performed by a processor.

80. (New) The display apparatus of claim 1, wherein the receiving processor receives the digital video signal and/or the audio signal from an external audio/video(AV) device.

81. (New) The display apparatus of claim 1, wherein the received digital video and/or audio signal are stored in the external storage medium in a real time manner.

82. (New) The display apparatus of claim 1, wherein the received digital video and/or audio signal are stored directly in the external storage medium.

83. (New) The display apparatus of claim 3, wherein the external storage medium is incorporated in a PDA.

84. (New) The apparatus of claim 3, wherein the external storage medium is incorporated in an MP3 player.

85. (New) The display apparatus of claim 3, wherein the external storage medium is incorporated in a digital video recorder.

86. (New) The display apparatus of claim 3, wherein the port is a USB interface.

87. (New) The display apparatus of claim 3, wherein the controller reproduces the stored digital video signal and/or audio signal in response to a user command.

88. (New) The display apparatus of claim 86, further comprising a display screen for displaying the received digital video signal and a speaker for outputting the received digital audio signal.

89. (New) The method of claim 30, wherein the storing of the digital video signal and/or the audio signal is performed in real time.

90. (New) The method of claim 30, wherein the digital video signal and/or the audio signal is in the form of a digital television broadcast signal.

91. (New) The method of claim 30, wherein the digital video signal and/or the audio signal are received from an external audio/video (AV) device.

92. (New) The method of claim 30, wherein the received digital video and/or the audio signal are stored directly in the external storage medium.

93. (New) The method of claim 30, wherein the external storage medium is incorporated in an PDA.

94. (New) The method of claim 30, wherein the external storage medium is incorporated in an MP3 player.

95. (New) The method of claim 30, wherein the external storage medium is incorporated in a digital video recorder.

96. (New) The method of claim 30, wherein the transmitting of the received digital video signal and/or the audio signal is performed through a USB port.

97. (New) The method of claim 30, further comprising the step of:
reproducing the stored digital video signal and/or audio signal in response to a user command.

98. (New) The method of claim 97, further comprising the steps of:
displaying the received digital video signal on a display screen; and
outputting the received digital video signal through a speaker.

99. (New) The method of claim 90, further comprising the step of:
forming a virtual file system for the external storage medium, wherein the
external storage medium is incorporated in a PDA.

100. (new) A method of operating a display apparatus capable of being
connected to an external storage medium disposed external to the display apparatus, the
method comprising:

reading a digital video signal and/or audio signal stored in the external storage
medium;

receiving the digital video signal and/or audio signal from the external storage
medium; and

reproducing the received digital video signal on a screen of the display
apparatus;

wherein the reading of the digital video signal and/or audio signal is performed
under a control of a controller disposed in the display apparatus;

wherein the receiving of the digital video and/or audio signal is performed
through a digital interface disposed in the display apparatus.

101. (New) The method of claim 100, wherein the external storage medium is
incorporated in a PDA.

102. (New) The method of claim 100, wherein the external storage medium is
incorporated in an MP3 player.

103. (New) The method of claim 100, wherein the external storage medium is
incorporated in a digital video recorder.

104. (New) The method of claim 100, wherein the digital interface is a USB port.

105. (New) The method of claim 100, further comprising the step of:
storing another digital video signal and/or audio signal, received from a television broadcast, in the external storage medium in response to a user command.

106. (New) The method of claim 100, further comprising the steps of:
outputting the received digital audio signal through a speaker.

107. (New) The method of claim 100, further comprising the step of forming a virtual file system for the external storage medium.

108. (New) The method of claim 100, further comprising the step of selecting at least one of the digital video and audio signal from a list of the digital video and/or audio signal stored in the external storage medium.

109. (New) The method of claim 107, further comprising the step of generating a management information for the external storage medium using the virtual file system.